

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original): An air heater system for a vehicle, the system comprising:  
an air heater having an electrothermal heating element; and  
a semiconductor switch connected to the electrothermal heating element in series for controlling energization to the electrothermal heating element,  
the semiconductor switch being a semiconductor switch having a current detecting function provided with a terminal for current detection to detect a current which flows in the electrothermal heating element.
2. (original): The air heater system for a vehicle according to claim 1, further comprising resistance control means for controlling a resistance value of the electrothermal heating element based on output corresponding to the current which flows in the electrothermal heating element detected through the current detection terminal of the semiconductor switch.
3. (currently amended): The air heater system for a vehicle according to claim 1 ~~or~~ 2, further comprising failure detection means for detecting a failure of the electrothermal heating element by detecting a resistance value of the electrothermal heating element based on output

corresponding to the current which flows in the electrothermal heating element detected through the current detection terminal of the semiconductor switch.

4. (currently amended): The air heater system for a vehicle according to claim 1 ~~any one of claims 1 to 3~~, wherein

the air heater includes a frame which holds the electrothermal heating element, and the semiconductor switch is fixed to the frame.

5. (original): The air heater system for a vehicle according to claim 4, wherein the electrothermal heating element has such a temperature converging property that a temperature rises and then converges to a predetermined convergence temperature when the electrothermal heating element is continuously supplied with maximum allowable voltage, the frame includes a resinous part made of resin, and the resinous part is arranged in such a place that the resinous part has rigidity adequate for actual use even when the electrothermal heating element is at the convergence temperature.

6. (original): The air heater system for a vehicle according to claim 4, wherein the electrothermal heating element has such a temperature converging property that a temperature rises and then converges to a predetermined convergence temperature when the electrothermal heating element is continuously supplied with maximum allowable voltage,

the frame includes a resinous part made of resin having a predetermined deflection temperature under load, and

the resinous part is arranged in such a place that the temperature of the resinous part remains below the deflection temperature under load even when the electrothermal heating element is at the convergence temperature.

7. (original): An air heater system for a vehicle comprising:  
an air heater having an electrothermal heating element; and  
a semiconductor switch connected to the electrothermal heating element in series for controlling energization to the electrothermal heating element,  
the air heater having a frame which holds the electrothermal heating element, and  
the semiconductor switch being fixed to the frame.

8. (original): The air heater system for a vehicle according to claim 7, wherein  
the semiconductor switch has an overtemperature protecting function for interrupting current passing through the semiconductor switch when a temperature thereof becomes a shut-off temperature, and

the semiconductor switch is fixed to the frame in such a place that the temperature of the semiconductor switch becomes the shut-off temperature when the temperature of the electrothermal heating element reaches an excessive temperature.

9. (original): The air heater system for a vehicle according to claim 8, wherein  
the frame of the air heater includes a metallic part, and  
the semiconductor switch is fixed to the metallic part of the frame directly or through an  
electrical insulator.

10. (original): The air heater system for a vehicle according to claim 7, wherein  
the semiconductor switch includes an overtemperature signal output terminal which  
outputs an overtemperature warning signal when the temperature of the semiconductor switch  
becomes a warning temperature,  
the semiconductor switch is fixed to the frame in such a place that the temperature of the  
semiconductor switch becomes the warning temperature when the temperature of the  
electrothermal heating element reaches the excessive temperature, and  
the air heater system includes overtemperature protecting means for interrupting the  
current passing through the semiconductor switch in response to the overtemperature warning  
signal from the overtemperature signal outputting terminal of the semiconductor switch.

11. (original): The air heater system for a vehicle according to claim 10, wherein the  
frame of the air heater includes a metallic part, and  
the semiconductor switch is fixed to the metallic part of the frame directly or through an  
electrical insulator.

12. (original): The air heater system for a vehicle according to claim 7, wherein  
the electrothermal heating element has such a temperature converging property that a  
temperature rises and then converges to a predetermined convergence temperature when the  
electrothermal heating element is continuously supplied with maximum allowable voltage,  
the frame includes a resinous part made of resin, and  
the resinous part is arranged in such a place that the resinous part has rigidity adequate  
for actual use even when the electrothermal heating element is at the convergence temperature.

13. (original): The air heater system for a vehicle according to claim 7, wherein  
the electrothermal heating element has such a temperature converging property that a  
temperature rises and then converges to a predetermined convergence temperature when the  
electrothermal heating element is continuously supplied with maximum allowable voltage,  
the frame includes a resinous part made of resin having a predetermined deflection  
temperature under load, and  
the resinous part is arranged in such a place that the temperature of the resinous part  
remains below the deflection temperature under load even when the electrothermal heating  
element is at the convergence temperature.

14. (original): An air heater unit for a vehicle, the unit comprising:  
an air heater includes an electrothermal heating element and a frame which holds the  
electrothermal heating element, and

a semiconductor switch fixed to the frame of the air heater and connected to the electrothermal heating element in series to control energization to the electrothermal heating element.

15. (original): The air heater unit for a vehicle according to claim 14, wherein the semiconductor switch has an overtemperature protecting function for interrupting current passing through the semiconductor switch when a temperature thereof becomes a shut-off temperature, and

the semiconductor switch is fixed to the frame in such a place that the temperature of the semiconductor switch becomes the shut-off temperature when the temperature of the electrothermal heating element reaches an excessive temperature.

16. (original): The air heater unit for a vehicle according to claim 15, wherein the frame of the air heater includes a metallic part, and the semiconductor switch is fixed to the metallic part of the frame directly or through an electrical insulator.

17. (original): The air heater unit for a vehicle according to claim 14, wherein the semiconductor switch includes an overtemperature signal output terminal which outputs an overtemperature warning signal when the temperature of the semiconductor switch becomes a warning temperature, and

the semiconductor switch is fixed to the frame in such a place that the temperature of the semiconductor switch becomes the warning temperature when the temperature of the electrothermal heating element reaches the excessive temperature.

18. (original): The air heater unit for a vehicle according to claim 17, wherein  
wherein the frame of the air heater includes a metallic part, and

the semiconductor switch is fixed to the metallic part of the frame directly or through an electrical insulator.

19. (original): The air heater unit for a vehicle according to claim 14, wherein  
the electrothermal heating element has such a temperature converging property that a temperature rises and then converges to a predetermined convergence temperature when the electrothermal heating element is continuously supplied with maximum allowable voltage,

the frame includes a resinous part made of resin, and

the resinous part is arranged in such a place that the resinous part has rigidity adequate for actual use even when the electrothermal heating element is at the convergence temperature.

20. (original): The air heater unit for a vehicle according to claim 14, wherein  
the electrothermal heating element has such a temperature converging property that a temperature rises and then converges to a predetermined convergence temperature when the electrothermal heating element is continuously supplied with maximum allowable voltage,

the frame includes a resinous part made of resin having a predetermined deflection temperature under load, and

the resinous part is arranged in such a place that the temperature of the resinous part remains below the deflection temperature under load even when the electrothermal heating element is at the convergence temperature.